

Medical Innovation, One Brick at a Time

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I can be a kid at heart. And when I say that, I state it with an almost literal meaning. I still enjoy toys. Now, I'm not the 40-year-old virgin character from the movie of the same name, but I can't admit to not still tinkering with Lego bricks and finding enjoyment from it. I don't build the spaceships that I used to build as a child, but I do find it fantastic what can be built from the plastic parts.

I am not so skilled, however, to be building medical devices with them, as some are doing. [In a recent video that was posted to the MDT website](#) [1], a woman was featured who built a prosthetic leg out of Lego bricks. It appears rather cumbersome and looks a little off in the multitude of colors in which it was created (then again, even a Lego leg made with only one color would be boring), but functionally, it appears to be solid.

[Then there's the column I wrote last year](#) [2] about a man who is creating medical devices out of toys for developing nations. He's even putting a kit together, modeled after Lego, that enables a person to build a medical device out of the parts provided.

There are designers and medical device developers who are using Lego as a prototyping "material" to help get the basic concept of an idea fleshed out in the physical realm. While low tech, it does offer a low-cost alternative to more

traditional processes.

I am amazed by what is accomplished by people taking control of their own healthcare (to a degree) with the assistance of a child's toy set. They feel empowered by their development capabilities and as such, are producing truly remarkable creations.

Fast-forward just a little bit and enter 3D printing solutions. Imagine a time when 3D printers are as common in a person's home as Lego bricks are today. The capabilities of these innovators grows significantly. And the materials with which they will be able to work are equally enhanced. What will be produced by these medical device inventors once they've gained even greater access to this type of development technology? Will it go so far as to improve drug delivery? Will it be limited to things like prosthetics? Or will they add electronics and create their own medical device monitoring solutions?

Taking it a step further and throw a website like Indiegogo into the mix. Now you're building a company (or at least a way to finance the idea that you built from Lego or a 3D printer) with "contributions" from "regular" investors like yourself. There isn't a need to have a big VC investment to move things along. How far can the idea be taken? Can it be put to the FDA for approval (assuming, of course, at some point, it is no longer made from the Lego bricks)? Can it go to market? Can it sell as an actual medical device? All because someone who had a medical need used a tool (whether toys or a 3D printer) that empowered them to fabricate a medical device.

I realize this may be a completely simplistic, idealistic way of looking at one aspect of the future of medical device innovation. Some may dismiss it as improbable, while others may chuckle at the possibility, but view it as extremely unlikely. Still others may think on it for a second, go down to their basement, and pull out that old box of Lego they still have.

It's those dreamers and creators who I most look forward to seeing the results from. The ones who are willing to go about things in a slightly unusual manner, using whatever tools they have at their disposal. Because great ideas come from thinking a little differently than the norm. Or at least trying to do something differently. And thinking about the possibilities in that way gets me excited for what's ahead.

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Links:

[1] <http://bit.ly/mdt1309a>

[2] <http://bit.ly/mdt1309b>